

Book Reviews

CAPTAIN SCOTT. Ranulph Fiennes. 2003. London: Hodder & Stoughton. xiv + 508 p, illustrated, hard cover. ISBN 0-340-82697-5. £20.00. DOI: 10.1017/S0032247404213778

H.G. Wells called the first decade of the twentieth century ‘a period of badly-strained optimism.’ Britain was just emerging from the Boer War. The war — which had gone badly at first — was partly about the rights of non-Boers in the Boer Republics but even more, perhaps, about the diamond fields of the Rand. When the British eventually won, *Life* magazine summed up international opinion: ‘a small boy with diamonds is no match for a large burglar with experience.’ Critics drew parallels between Britain’s poor military performance and the onset of degeneracy, both moral and physical, in the Roman Empire. As the naval race with Germany grew ever faster and the prospect of war ever more certain, the discomfited British looked for evidence that rumours of the demise of the national character had been much exaggerated and that their manliness would withstand the tests ahead.

The death of Robert Falcon Scott and his companions in 1912 after being pipped to the South Pole by Roald Amundsen seemed to provide such reassurance. Scott’s papers, found with the bodies, described how his companions were ‘unendingly cheerful.’ Scott promised that, ‘Had we lived, I should have had a tale to tell . . . which would have stirred the heart of every Englishman.’ In particular, Scott’s account of Captain Oates stepping out to die with a laconic ‘I am just going outside and may be some time’ resonated. The *Daily Mail* praised Oates’ ‘immortal chivalry’ for preferring to sacrifice himself rather than endanger his comrades. His old army comrades recounted his gallantry in the Boer War, when he was wounded and earned the name ‘no surrender Oates.’ Thousands attended a memorial service for Scott and his men in St Paul’s Cathedral while, that same day, their teachers told Scott’s story to three-quarters of a million of the capital’s schoolchildren.

If Britain needed heroes in 1913, she needed them even more during the First World War, as a generation of young men obeyed the call to unquestioning sacrifice in the Flanders’ mud. The nobility of Scott’s sacrifice in the pure white Antarctic wastes achieved iconic status.

That status was not questioned until the 1970s — a time when the debunking of icons, particularly of those with military or imperial associations — became the biographer’s favourite sport. Scott was among the last to fall, but Roland Huntford’s *Scott and Amundsen* in 1979 and the TV dramatisation based upon it provided one of the most thorough hatchet jobs of all. It portrayed Captain Scott as a vain and arrogant incompetent, disliked by his men and cuckolded during his absence by the far superior

explorer Fridtjof Nansen. This portrait has remained the dominant one during the succeeding years, despite several attempts to balance the picture.

Ranulph Fiennes’ intention, from the very first pages of his new biography, *Captain Scott*, is clear. The dedication reads ‘to the families of the defamed dead.’ His is a no-holds-barred debunking of the debunkers. Fiennes’ fluent, colloquially written account successfully refutes all of the more outrageous slurs on Scott’s good name. He demonstrates that Scott’s relationship with his men was better than that of most polar leaders and that his planning and training were good by the standards of his day. Citing Susan Solomon’s recent book *The Coldest March* and her work on meteorological history, he dismisses the charge that Scott exaggerated the cold on his return journey (he was unlucky enough to be out on the ice in one of the coldest Antarctic Marches of the twentieth century). He also dismisses the unsubstantiated allegation of an affair between Scott’s wife Kathleen and Nansen.

The way Fiennes applies his own polar experience to evaluate Scott’s key decisions gives this book particular authority. For example, he draws on his own experience of being cut off on an Arctic ice floe to inform his analysis of why Scott allowed some of his men to trust themselves and their ponies to sea ice during the 1911 depot-laying journey. Similarly, his own understanding of snow and ice conditions on the Polar Plateau underlies his explanation of the finely balanced nature of decisions on when and when not to use skis. His account of the inevitable calorie deficit suffered by Scott and his team is again underpinned by his own and Mike Stroud’s experience.

Fiennes’ views on which two men Scott chose for the final party, in addition to Bowers as navigator and Wilson as doctor, carry great weight because, as he says, ‘As a manhauler with many polar journeys sharp in my memory, I can put myself in Scott’s *finnesko* and ask myself what attributes I would have recruited . . . There is but a single clear answer and that is *pulling power*, sheer enduring strength.’ He concludes that on the information available to Scott — he did not, for example, know of Taff Evans’ cut hand — Oates and Evans were the best choices, with Crean a close third.

Most revealing, however, is the light his polar experience casts upon Captain Oates’ last brave exit and the acquiescence of his remaining companions in it:

With useless fingers he [Oates] would have been unable to untie the lashings of the door funnel . . . Somebody must have done it for him. With a blizzard outside the bunched up ‘door’ material would have been carefully lashed and the ties frozen into a hard knot, difficult enough to untie with fit fingers. Once Oates was outside, those inside would have tied the door back up instantly to exclude blown snow and

loss of any warmth that might be trapped within the tent.

This analysis, so imbued with Fiennes' polar know-how, only adds to an appreciation of the courage and dignity of all those involved.

Fiennes also explains Scott's decisions, and those of Shackleton before him, about transport. However, he does not entirely dispel the suspicion that, had either man appreciated the extent to which their problems with dogs on the British National Antarctic Expedition (1901–04) derived from their own inexperience, they would have learned to use them properly and without the suffering they thought was unavoidable. Had they done so, one of them, probably Shackleton in 1908/09, would have been first to the South Pole.

Perhaps through lack of space Fiennes gives relatively little attention to the relationship between Scott and Kathleen, which was key to Scott's motivation. She was the only person to whom this buttoned-up but emotional man could express his innermost feelings. He told her how trapped he felt in the naval 'machine,' how he craved the 'open spaces of life and thought' and longed to be with her 'when the sun shines free of fog.'

There is also, perhaps, more to be said about Scott's skill as a writer and the influences upon him of his many artistic friends such as J.M. Barrie, for whose creation *Peter Pan* Scott named his only son. Not least amongst the reasons why Scott achieved iconic status was his ability to convey the awful majesty of Antarctica and his own response to it. The eloquence of Scott's words written after the *Discovery* Expedition — 'no journey ever made with dogs can approach the height of that fine conception . . . when men go forth . . . with their own unaided efforts . . . and succeed in solving some problems of the great unknown' — captures timelessly a philosophy perfectly attuned to his age. It is also — and perhaps this says something about our own times — the spirit of most Antarctic expeditions today.

However, lack of emphasis on such marital and literary detail only leaves scope for future biographers. Ranulph Fiennes' fine book deservedly restores Scott's position, not to that of sacrosanct icon but to that of a very human hero. It is a must for any polar bookshelf. (Diana Preston.)

PENGUINS & MANDARINS: MEMORIES OF NATURAL AND UNNATURAL HISTORY. Martin Holdgate. 2003. Spennymoor, County Durham: The Memoir Club. xii + 372 p, illustrated, hard cover. ISBN 1-84104-079-7. £19.95.

DOI: 10.1017/S0032247404223774

I met Martin Holdgate at a party during my first week at Cambridge. I met him again nearly three years later when answering an advert for a biologist to work for the British Antarctic Survey. In his office at the Scott Polar Research Institute, he showed me the plans for the new biological laboratory-cum-living quarters to be built at the BAS base at Signy Island. Despite one or two

problems, I joined the team that first built and then lived and worked in what became known as the Plastic Palace. It was the turning point in my life, and, 40 years later, I was reading Holdgate's book as I sailed in Antarctic waters.

Not surprisingly, then, I turned first to the chapter entitled 'The true south,' which is Holdgate's account of how he was employed by FIDS (later BAS) to establish a biological programme and build the new laboratory. It seems he talked himself into the job during a discussion with Sir Vivian Fuchs and Gordon Robin at the FIDS annual recruits' briefing conference. This sent him south in the 1961/2 season to reconnoitre the research potential of Signy Island, together with Peter Tilbrook and Barry Heywood, who were starting work as biologists.

As anyone who knows Signy Island is aware, it is the top ecological 'hotspot' of the Antarctic and a paradise for polar biologists. Only 8 kilometres long and 5 wide, and glaciated in the centre, it has lakes and carpets of vegetation inhabited by a variety of invertebrates, nesting birds galore, including four breeding species of penguins, and populations of Weddell and elephant seals. (The fur seals returned in the 1970s and wrecked the place.) The coastal waters are similarly rich and varied.

Back in the UK, Holdgate recommended a programme that would include the interactions of terrestrial, fresh-water, and marine ecosystems. This was accepted and he became the chief biologist of BAS at a time when British Antarctic policy was changing. FIDS had been set up to maintain British territorial claims; in 1959 the Antarctic Treaty had been signed after the International Geophysical Year. FIDS turned into BAS and there was a greater emphasis on science.

I was a part of this transition, employed as a combination meteorological assistant and zoologist, helping to build the new Plastic Palace and taking my turn with all the chores and routine work. We had a professional cook, which was a great step forward in making base life more professional, but we had difficulties when senior scientists visiting for limited periods were adamant that they had not come all this way to spend precious days washing-up and scrubbing-out. There was also a new pay-scale that discriminated between scientists and technicians.

In reading this chapter, I was interested to learn the discussions and decisions that had been going on in high places and that had affected my life at the bottom of the heap. (And I found minor points to quibble about our life at Signy!) It ends with Holdgate's visit to the still rarely visited South Sandwich Islands. The chapter will appeal to anyone with an interest in the development of Antarctic science. They are also likely to be interested in the two previous chapters on the expedition to Gough Island in 1955 and the Royal Society expedition to southern Chile that marked the centenary of *The origin of species*.

The rest of the book is more mandarins than penguins, although Antarctic affairs in the form of SCAR and the International Biological Programme (IBP) spill into the next chapter. In 1966 Holdgate left BAS for the

Nature Conservancy and the remainder of the book is taken up with his varied and distinguished career as an administrator of nature conservation on a grand scale. In the Nature Conservancy he led a nation-wide team of biologists studying British flora and fauna with the object of saving as much as possible. This led him into international affairs, including the United Nations Environment Programme, and finally he served as Director General of IUCN – The World Conservation Union.

Holdgate's career was so varied and packed with action that the book becomes a scamper through the corridors of power. Interspersing family life with his professional activities makes the narrative harder to follow, and career changes sometimes leave the reader hanging. I thought the book would provide the opportunity to learn more about the ill-fated Convention for the Regulation of Antarctic Mineral Resources Activities (CRAMRA). However, after a 'jolly to end all jollies' in the form of an international meeting at McMurdo Sound that included cricket on a glacier and a flying visit to the South Pole, it was back to domestic affairs and no hint of the outcome. Despite these shortcomings, *Penguins and mandarins* is an interesting and useful account by a man who was in the thick of policy-making in the years following the signing of the Antarctic Treaty. (Robert Burton, 63 Common Lane, Hemingford Abbots, Huntingdon PE28 9AW.)

FURY BEACH: THE FOUR-YEAR ODYSSEY OF CAPTAIN JOHN ROSS AND THE VICTORY. Ray Edinger. 2003. New York: Berkley Books. xxii + 279 p, illustrated, hard cover. ISBN 0-425-18845-0. US\$22.95; Can\$34.50.
DOI: 10.1017/S0032247404233770

John Ross' *Victory* expedition of 1829–33 occupies a central position in the Northwest Passage expeditions of the first half of the nineteenth century, coming as it did between those that took place following the conclusion of the Napoleonic Wars and Franklin's last expedition and the subsequent search. It has several features of importance. These include that it was not a public expedition but was privately funded, by the gin distiller Felix Booth. Secondly, the ship *Victory*, which as the author correctly notes, started life on the Isle of Man service from Liverpool (Stone 2000), was the first steam ship used on a polar expedition. Furthermore, the expedition endured four successive winters in the Arctic; its senior officer, Ross, had his nephew James Clark Ross on board; it was the first to reach the North Magnetic Pole; and it was one of the first to establish close relations with the local Inuit inhabitants.

As is the case with many of the expeditions of the period, it has never been the subject of detailed historical study, although aspects of it have been examined by specialists. Therefore, a book length account of the expedition is to be warmly welcomed, although this volume is certainly not the definitive study that the

expedition merits. The writer is, according to the blurb, 'an expert on polar exploration.' He is also a bibliophile, indeed a sufferer from 'bibliomania,' and is a collector and, he stresses, *reader* of the published works of many of the great explorers of the period, including John Ross. It is this background that has provided him with the knowledge and the sources to undertake the present book.

The author tells a good, readable tale. He stresses throughout the book the acrimony that John Barrow felt for Ross, arising partly from the failure of Ross' 1818 expedition, and states clearly that it was this that frustrated Ross in his efforts to secure command of another naval expedition. He also stresses the fundamental importance of Fury Beach in Ross' planning, as being the site where large amounts of stores had been left by William Edward Parry's *Fury* and *Hecla* expedition of 1824–25, and upon which Ross was relying. The central importance of Fury Beach to the story also arises from its being the site of the expedition's fourth wintering. This provides the title for the book.

The account of the expedition is more or less chronological, but the writer introduces unnecessary complication and confusion by the use of flashbacks in several places. He starts with a chapter entitled 'A desperate *Victory* makes Fury Beach.' In this, reference is made to the fact that while ascending Prince Regent Inlet, *Victory*, after much difficulty with the engine, called in at Fury Beach to replenish stores. The expedition then proceeded farther into the inlet and established a wintering site at Felix Harbour in southeast Boothia Peninsula, both of which were named by Ross.

This is followed by an out-of-sequence chapter on Ross' earlier 1818 expedition, in *Isabella* and *Alexander*, in which stress is laid on the famous meeting with the 'Arctic Highlanders,' Inuit inhabitants of Greenland, and the Lancaster Sound 'Crocker Mountains' controversy.

Reverting to the main topic, the next two chapters present a detailed account of that first wintering and especially refer to the close relations that were established with the Inuit inhabitants of the region. Indeed, the importance of this with regard to the book as a whole is roundly stated on the front cover in which the reader is informed that the book is 'A True Story of Arctic Exploration and Life Among the Inuits' [*sic*]. Much is made of the 'friendship' between the crew and the local people, and of the extent to which the Inuit 'assisted' the exploration that the party was able to accomplish while the ship was iced in.

The account continues with the problems faced by Ross in extracting the ship from Felix Harbour, only being able to move 5 km northeast before having to winter a second time, at Sheriff Harbour. In early 1831, much surface travelling was undertaken by James Clark Ross, and this culminated in the attainment of the North Magnetic Pole on 1 June. Later in the summer of 1831 it proved impossible to move more than 25 km before the ship became beset a further time. The next chapter is entitled 'Abandon ship,' and refers to the abandonment

of *Victory* during the winter of 1831–32 and to the efforts made by the party to use the boats to leave the inlet. This proved impossible and so they were forced to undertake a fourth wintering at Fury Beach. The chapter on this is entitled, reasonably enough, ‘Cold, hunger and misery at Fury Beach’ and includes an account of the departure of the party in the boats from the beach on 15 August 1833 and of their remarkable rescue by *Isabella*, now a whaler, on 26 August. The final chapter is entitled ‘Recognition, rewards and rancour,’ which sums it up neatly and concludes with reference to Ross’ last expedition in 1850–51 — again funded by Felix Booth — in search of the missing Franklin expedition.

The author includes an interesting epilogue in which he touches on Ross’ career after the Franklin search, his death, and the later explorations of James Clark Ross. It also includes interesting notes on each of the crew of *Victory*; on ‘The George Back Overland Rescue Mission’ of 1833–35, during which Back aimed to search for the missing Ross; on ‘The Fate of Sir John Franklin’ concerning the *Fox* expedition; on ‘The Inuit of Boothia Peninsula’ commenting on the situation today; and on ‘The Northwest Passage’ referring largely to *Manhattan* and vindicating Ross’ opinion that the passage would be ‘utterly useless.’

The book can be summed up as being a pleasant, indeed very pleasant, read and a useful, although far from comprehensive, account of an important venture. It is well illustrated with pictures taken from contemporary publications in the author’s collection, but there is only one, and very poor, map although one of the illustrations is a chart prepared by Inuit showing ‘the Gulf of Boothia with no waterways to the west.’ There is a bibliography that includes contemporary periodicals and books with some more modern ones and an index. Recommended for those seeking an easy-going introduction to one of the most important Arctic expeditions. (Ian R. Stone, Laggan Juys, Larivane Close, Andreas, Isle of Man IM7 4HD).

Reference

Stone, I.R. 2000. ‘Our little uncommercial and unenterprising island’: the Isle of Man history of Sir John Ross’s *Victory*, 1826–7. *The Mariner’s Mirror* 86: 72–75.

SEA ICE: AN INTRODUCTION TO ITS PHYSICS, CHEMISTRY, BIOLOGY AND GEOLOGY. D.N. Thomas and G.S. Dieckmann (Editors). 2003. Oxford: Blackwell Science. 416 p, illustrated, hard cover. ISBN 0-6325-808-0. £89.50.

DOI: 10.1017/S0032247404243777

Sea ice is not so much an object of study in and of itself, but an environment. As such, it attracts researchers with varied specializations, from those who study the properties of the ice itself, to those who study the organisms who make it their home. For much of the history of polar science, physicists have mostly viewed sea-ice biology as a curiosity, or as a pleasant diversion

while in the field. Biologists, for their part, have out of necessity paid more attention to the physical properties and processes of sea ice because of the inexorable control such an extreme environment has over its inhabitants. It then seems appropriate that it is biologists who attempt to bring these erstwhile disparate realms together in one volume, as David Thomas and Gerhard Dieckmann seek to do as editors of *Sea ice: an introduction to its physics, chemistry, biology and geology*.

Sea ice covers a wide range of topics from the micro-physics of sea ice to large-scale behaviour, microbiology to polar marine mammals and birds, biogeochemistry to palaeo sea-ice distribution. Each chapter reviews the current state of knowledge of various aspects of sea-ice research, each by an expert in the field. These fields are well integrated throughout the volume, with substantial cross-referencing among the individual chapters. The authors do a particularly good job of demonstrating the connections between the different topics. For example, the chapter on primary production presents a detailed biophysical model, clearly demonstrating that the physical characteristics of the ice cover are critical to controlling algal growth. But the reader will also find a few intriguing possibilities for biological controls on the physical evolution of ice, such as through production of dimethyl sulphide and exopolymers.

Most of the recent interest in sea ice, of course, concerns the rapid decline in Arctic ice extent, which has broad implications for polar and global climate, but also for the organisms that depend on sea ice for survival. So it is appropriate that variability of the ice cover and its implications form a common theme throughout the book. There are useful discussions of the Arctic oscillation, Arctic circulation, and the ice-thickness distribution. Perhaps one of the most compelling chapters is a recent analysis of trends in decreasing Arctic sea-ice cover and links of these trends to dramatic changes in surface temperature from satellite data. The reader will find tantalizing connections between the patterns in sea-ice extent and climate oscillations such as the North Atlantic Oscillation and the ENSO. Unlike the rest of the book, this chapter reads more as an individual research article than as a review or reference, as the analysis will by its nature become dated almost immediately. This we have already seen, as the last two years have witnessed the greatest decline in Arctic perennial ice extent that has been observed in the satellite record. The review of palaeo sea-ice distribution provides perspective with which to view the recent changes. Of particular interest is the discussion of proxy indicators of ice extent, such as whaling records, penguin populations, and biogenic sulphur found in continental ice cores. The discussion of effects of the variability of sea ice and teleconnections on krill, black guillemot, penguin, and polar bear populations will be of interest to all polar scientists.

Another major focus throughout the text is a discussion of investigative techniques. Most chapters have a useful explanation of commonly used methodologies as well as

many exciting new technologies. For the geophysicist, these include nuclear magnetic resonance imaging for the investigation of microstructure, and electromagnetic induction methods and autonomous underwater vehicles for measuring sea-ice thickness distribution. The biologist will find new methods of *in situ* primary productivity measurements and microelectrode technologies for measuring oxygen fluxes.

The chapters on biology, which form the bulk of the text, provide a fairly comprehensive introduction to this aspect of sea ice. Given the burgeoning knowledge of these ecosystems provided by advances in techniques and increased accessibility to ice-covered seas, such a treatment is long overdue. *Sea ice* builds on the tradition of the classic work of Horner (1985), but is extensively expanded and updated, particularly with regard to methodology, biogeochemistry, and a chapter on marine mammals and birds. Many of these sections are fairly specialized, but the treatments of adaptations to cold and low light levels, salinity stress, and a discussion of antifreeze compounds should be of interest to any reader. These sections will also be of interest to those who study extremophiles in other environments, not just sea ice.

There are a few minor weaknesses in the text. The chapters on biogeochemistry and particulate flux have no figures other than of instrumentation, which can make digestion of the material difficult. Some sections suffer from occasional jargon. Fortunately, there is a glossary at the end of the text that is particularly useful considering the likely diverse readership. There are a few inaccuracies (for instance, pancake ice can be thicker than 10 cm) and some technical terms in the text are not in the glossary, but the style otherwise greatly enhances the readability of what may be unfamiliar material. The trends in Arctic surface temperature might raise some eyebrows, as one figure appears to show a rise in temperature of 4–6°C in Canada and northern Europe during the past two decades, which is obviously unrealistic.

The production quality of the book is excellent. Figures are of high quality, especially the excellent photographs (some by renowned Antarctic photographer Norbert Wu). The volume is well edited, with only a few minor errors — the captions for two of the colour plates are switched, and there are a couple of typographical errors. It is unfortunate that the binding is not of higher quality as some of the colour plates easily separate from the spine.

Despite the assertion on the back cover that this will stand as the standard work on the subject, *Sea ice* falls just short of this claim. The discussion of the role of sea ice in shaping the polar oceans in the first chapter is very brief. Given recent observations of dramatic changes in the Arctic Ocean, it is a shame this is not given more space. Perhaps the most significant omission, however, is the lack of a more complete discussion of ice dynamics and deformation. Thus, for the sea-ice geophysicist, the monograph by Leppäranta (1998) will remain the primary reference text on the subject. Nevertheless, there is enough

new material to make *Sea ice* a worthwhile purchase; for the biologist, it will be indispensable. But there are better reasons why *Sea ice* should be on the bookshelf of any polar researcher. Throughout the text, one is struck not by the differences between specializations, but how much knowledge gleaned in one discipline can be of value to another. Not only will readers find valuable information in places they may not have thought to look, but they may just find, as this reviewer did, motivation for new investigation. And this, after all, should be the goal of any science book. (Ted Maksym, Department of Oceanography, United States Naval Academy, Annapolis, MD 21402, USA.)

References

- Horner, R.A. (editor). 1985. *Sea ice biota*. Boca Raton, FL: CRC Press.
 Leppäranta, M. (editor). 1998. *Physics of ice-covered seas*. 2 vols. Helsinki: University of Helsinki Press.

THE NATURE OF GOLD: AN ENVIRONMENTAL HISTORY OF THE KLONDIKE GOLD RUSH.

Kathryn Morse. 2003. Seattle: University of Washington Press. xviii + 290 p, illustrated, hard cover. ISBN 0-295-98329-9. US\$29.95.

DOI: 10.1017/S0032247404253773

Popular geographies are often the product of the spectacular, and in this respect the Klondike Gold Rush ranks with the Franklin expedition in coloring popular perceptions of the character of the Canadian north. The events of the late 1890s introduced Euro-American populations to the north on an unprecedented scale, as tens of thousands of gold-seekers poured into the rugged, thinly peopled, and climatically temperamental upper Yukon basin. They brought with them the cutting edge of late nineteenth-century technology, and attitudes towards the environment conditioned by industrialisation and the westward march of the American frontier. In short order a sophisticated communications system of steamboats, railways, and telegraph linked the Klondike to the wider urbanized world, and on a squalid flood-plain at the confluence of the Klondike and the Yukon rivers Dawson City emerged as the largest city in Canada west of Winnipeg. Forests, landscapes, and wildlife were devastated as mining subsumed the landscape and as the land yielded up food and fuel to support the new populations and their industry. The Klondike experience not only touched those who went, and those who facilitated and profited, but also millions who learned about the event from the media.

Mass-circulation newspapers were the internet of the day, and newspaper reports, narrative, photography, and literature combined to create a popular image of an Arctic frontier, raw and untamed but necessarily succumbing to industry and civilization. This rich archive has been the source for a wide range of contemporary works examining various aspects of the Klondike Rush. In *The nature of gold* Kathryn Morse draws on it to examine

the role of Americans in the event, and the link between events in the Klondike and the wider world of the late 1890s when urbanisation, industrialisation, large-scale agriculture, and high-speed transport had transformed space and society.

The work commences with a treatise on gold, its role in society, and its role in the American economy in the years leading up to the Klondike Rush; it ends with a review of the impact of the Gold Rush on Seattle, the main departure point for Americans heading to the gold-fields. The 'meat' lies in between, where in a play on words reflective of the title, Morse speaks to the nature and culture of gold, of travel, of food, and of mining. The work captures the experiences of those who participated in the Gold Rush, and it is when dealing with the narratives and experiences of those who were involved in the journey to the gold-fields and the task of extracting gold that her scholarship shines. Central themes are the relationship between culture and nature, the way in which the Klondike connected with a global web of industrialisation and agriculture that reached into the north, and the notion that industrial activity ultimately rested on the natural world. Morse draws on the personal experiences of participants in the form of letters, journals, and photographs to paint a vivid and realistic picture of what it was like to be involved in the events of 1896–98, and the manner in which values and expectations borne in the world of the rapidly urbanising United States played out in the landscapes of the Canadian Yukon.

The work's subtitle — 'An environmental history of the Klondike Gold Rush' — is something that this reviewer finds somewhat incongruous inasmuch as on the dust-jacket William McKibben, an American historian, hypes it as not only being second to Jack London's work, but also as a 'truly revealing window on our national history and national character.' This may be an anachronistic slip, reflective of the fact that in the nineteenth century there was some degree of uncertainty as to where the Canada–USA boundary lay in the northwest, but the Klondike lies in Canada and that is where the most significant environmental impacts occurred. More generously, perhaps the comment reflects the fact that the work is primarily more about American society and its involvement in the Klondike, rather than environmental transformation and its implications in the Canadian north. Viewed from this perspective the work is solid, but Morse's treatment of the environmental question is truncated. The first chapter focuses on attitudes towards gold, and the last on Seattle; of 191 pages of text, only 126 relate to events in the Yukon, and the preoccupation is with only a two-year period. She describes the way the way the previously tranquil lower Klondike valley was ripped apart in the quest for gold, and the devastating impact that the quest for food and fuel had on natural landscapes. But little is said about the way in which region now known as the Yukon had been considerably transformed by contact with the wider world before 1896, or the ways in which the environment of the Klondike region was successively

modified by technological innovation and changes in scale in the years leading up to the First World War, as mining became increasingly capital-intensive and more natural resources were consumed to support the machinery of the mining industry. Perhaps more importantly, there is little discussion of the way events conditioned subsequent attitudes towards northern environments and northern resources as experience, literature, and poetry reinforced an image of a rugged frontier destined to serve industrial society, a sentiment reflected in the Yukon Placer Mining Act, which effectively gave priority to mining as the highest and best of land-use activities. Nothing is said about the way in which the term 'Klondike' had a global reach, being almost iconic for both adverse environments and machinery of environmental modification, with the name Klondike attached to industrial artifacts as disparate as dredges used to build the second Welland canal, mines in northern England, and trawlers in the North Sea.

In some respects the work is a stilted read, reflecting the fact that its genesis was a doctoral thesis written to the conventional strictures of academia, yet paradoxically some arguments are labored almost to the point of insulting the intelligence of the reader. The image of the miner dining on canned pork and beans appears frequently, almost as a metaphor for the link between the northern frontier and the wider world of industry. Canned food was a mainstay of diet, but the Klondike venture was only one of many for which it provided sustenance, and claims about the connection between the Klondike and the food canning industry are rather hyperbolic. The American canning industry in 1900 was already producing canned food for a population of 75 million; the demand from, at the most, 30,000 miners was trifling. Discussion of food, and the author's anxiety to keep the notion of nature firmly in the reader's sights, leads to the banal observation that, 'the miners' food, like all food, was natural; it came from nature' (page 139). A persistent theme is that the transactional world of industrial society introduced by the Gold Rush reduced much of the Yukon landscape to a commodity. This included not just natural environments that could yield food and fuel, but also knowledge of such environments in the form of native knowledge of hunting, and of rivers and their ways. In reality such commodification was not new. Proto-contact, the fur-trade, and the endeavours of early explorers had brought about changes in attitudes towards land and resources long before the Gold Rush. As early as the mid-nineteenth century, the coastal Tlingit had enmeshed inland tribes in the fur trade, and trade artifacts were soon found in the hands of the most isolated Yukon First Nations. In 1869 Chief Kohklux bartered his knowledge of the interior Yukon to George Davidson in return for release from imprisonment, and long before the Gold Rush Campbell and Schwatka had merely continued a long colonial tradition when in trading toponymy for patronage they laid the foundations of the modern map of the Yukon.

There is little detailed examination of the longer-term impacts of mining on the landscape, environment, attitudes towards northern development, or the original peoples of the Yukon. While the impact that the Gold Rush had on the lives of Indians is acknowledged, this population tends to appear as a supporting cast, and there is scant discussion of their seemingly paradoxical embrace of activities that were at odds with the very nature they claim to respect, or the fact that environmental and social conflicts emanating from the Rush were the catalysts that started their long quest for a land-claim settlement. These omissions are germane, because one would expect that an environmental history of the Klondike Gold Rush would examine the way it impacted subsequent events, and the manner in which northern resources and environments were popularly viewed. In the conclusion Morse does seek lessons from the event, but the case example she offers is of gold mining in Montana. Nothing is said about the legacy of the Gold Rush for the Yukon, or about the perspective it brings to contemporary debates about development and environment in northern Canada. (Frank Duerden, Department of Geography, Ryerson University, 350 Victoria Street, Toronto, Ontario M4L 3L6, Canada.)

BOREAL TIES: PHOTOGRAPHS AND TWO DIARIES OF THE 1901 PEARY RELIEF EXPEDITION. Kim Fairly Gillis and Silas Hibbard Ayer III (Editors). 2003. Albuquerque: University of New Mexico Press. xv + 232 p, illustrated, hard cover. ISBN 0-8263-2810-5.

DOI: 10.1017/S003224740426377X

This book is a reminder that many important materials related to polar history remain in private hands, and although welcome, it is also a cautionary tale to leave the interpretation of those materials to specialists.

Boreal ties recounts the events of the Peary Arctic Club Relief Expedition of 1901, financed by Robert Peary's backers to aid his self-styled 'siege of the Pole,' which he carried out between 1898 and 1902 with negligible success. It proposed to check Peary's progress and discover the fate of his wife and daughter, who had sailed on another relief ship in 1900 and had not returned as expected. The events of the voyage are told in the words of two participants, who are characterized as 'possibly the very first Arctic tourists.'

Actually, as early as 1893, Peary helped finance his expedition by inviting paying 'guests' to travel north with him. Thereafter this became routine. In Peary's extensive papers in the US National Archives can be found several professionally designed broadsides aimed at rich young men with time and money to spare. Peary's papers also contain evidence that he was not above skimming something for himself from his backers' generous contributions by spending as little as possible on sufficiently equipping himself to reach the Pole. This evidence is supplemented in the diaries that make up

the bulk of *Boreal ties*, with their constant references to inferior supplies, amateur and shorthanded crews, and the questionable credentials of the captain of the *Erik*, which Peary's close associate, Herbert Bridgman, chartered for Peary's relief fresh from salvage after a serious wreck.

Clarence Wyckoff, heir with his brother Edward to the Remington Typewriter fortune, was one of Bridgman's paying 'guests,' and he also footed the bill for his friend, Louis Bement, a clothier from Ithaca, New York. The editors are these diarists' direct descendents. Gillis is Wyckoff's great-granddaughter and Ayer is Bement's grandson.

The book is lavishly produced, with 171 photographs drawn from the editors' combined family collections. They range from a well-known portrait of Peary by his future rival Dr Frederick Cook, who was second in command to Bridgman, to tiny candid snapshots produced by Bement's cheap Pocket Kodak and magnificent panoramas made by Wyckoff's expensive Kodak Panoram. Altogether they constitute the most complete pictorial record of any of Peary's Arctic voyages ever published, and include some rare pictures of lesser known figures in polar history, including the legendary ice-masters Samuel, William, and Moses Bartlett. There are also several especially interesting images of the physically diminutive, but now larger than life, Matt Henson, not seen before.

Although the diaries and most of the pictures are published here for the first time, I have lived with this material for a decade. I was given access to most of it in 1994, while I was researching my book *Cook & Peary* (Bryce 1997). Through a chance contact with Ms Gillis, her great-aunt, Betty Wyckoff Balderson, provided me with a typed transcript of her father's diary. Based on a comparison of the present text with that transcript, I can say that *Boreal ties* reproduces the material accurately, what differences there are being explained by its editorial note. Ms Gillis put me in contact with Silas Ayer, who generously provided me with a partial transcript of Bement's diary (he did not realize at the time that he possessed the full original, which I did not see). He also generously allowed me to study and publish several of the pictures from his grandfather's album for the first time.

Though supporting only 18 pages of my finished text, I found this material invaluable. The only eyewitness accounts I had accumulated previously regarding the voyage of *Erik* consisted of disconnected notes by Bridgman, Peary, and Josephine Peary, and a full account written by Cook in the 1930s, which I knew from other evidence to be inaccurate and unreliable. In Wyckoff's diary, I had the contemporaneous eyewitness account I needed to tell the full story of this voyage, and in the pictures, many clues and insights into the relations then existing between Cook, the Pearys, and Dr Dedrick, Peary's surgeon, with whom he had a bitter falling out, with much import to understanding Peary's basic character.

Much to my disappointment, the portion of Bement's diary I did not see, now reproduced in *Boreal ties*,

adds nothing to understanding the Peary–Dedrick quarrel. Neither do the editors help the reader's understanding of it, making several crucial false assumptions and without reference to the existing scholarship on the subject, as published in my book, the only other publication ever to draw upon these same sources or Dedrick's own diaries. Instead, their introduction repeats some myths exploded there. Chief among these is the repetition of Cook's supposed diagnosis of Peary's pernicious anemia 19 years before it killed him, which is still medically impossible, and Peary's refusal of Cook's correct prescription — 25 years before that therapy was discovered. Although Cook's quoted account describes in clinical detail the gruesome manifestations of Peary's supposed 'morbid' condition in 1901, Cook is unable to give Peary's height or even his age accurately. In fact, Cook's diagnosis is a fantasy account, which appeared about 1935, 15 years after Peary died of pernicious anemia, and 10 years after its treatment had been identified. Nevertheless, it is repeated by the editors as if it was contemporaneous, and accepted fact, even though the diaries of their own ancestors make no mention of Peary being in poor health, and though the pictures of him they took give no evidence of it either. The editors' acknowledgment of 'the generous financial contribution of the Frederick A. Cook Society' to the completion of their project may explain all of this. To their credit, however, the editors make it clear that although Wyckoff and Bement always preferred Cook to Peary as a man, they both ended by disbelieving his greatest fantasy of all: his claim to have discovered the North Pole in 1908.

Such lapses, and inaccuracy of their notes (they continually misattribute quotations of others to Rudolf Kersting, for instance), misapprehensions (they fail to realize the significance of the sighting of *Fram* in 1899, or the nature of the 'news' that Wyckoff angrily felt was wrongly being withheld from him), and general overstraining for scholarly effect confirm the editors' frank disclaimer not to be experts in the various subjects covered in their book. This said, it is unclear just who their intended audience is supposed to be. The primary materials, which make no pretensions to be literature, and often merely repeat each other's descriptions of often-mundane events of each day, will be of little interest to any but an expert. And instead of placing the diaries in a more enlightening overall context for the average reader, the editors devote much space to apologizing for the attitudes of the past toward indigenous peoples and minorities they contain and an academic analysis of the photographs for traces of how these images illustrate those now-unacceptable attitudes. Perhaps this is the price the editors had to pay to have their material published by today's politically correct academic press.

The chief value of the book does lie in those photographs, however, but even there the selection is puzzling. Most of the images are the best of the lot I saw, but several were far more interesting than many printed here. They would include one of Matt Henson flirting with

an Inuit girl and another of Peary being rowed ashore to his new winter quarters near Cape Sabine. Still, these photographs represent a generally unknown photographic record of historical significance representing an era of wooden ships and iron men battling against the ice, now completely vanished. It is good to learn from Mr Ayer that he and his fellow editor have now had this material digitally scanned, thus assuring its preservation for future scholarly study.

For the pictures alone, then, *Boreal ties* should be a welcome addition to the scholar's bookshelf, although the supplementary text should be approached with some caution. (Robert M. Bryce, Head Librarian, Montgomery College, 20200 Observation Drive, Germantown, MD 20874, USA.)

Reference

Bryce, Robert M. 1997. *Cook & Peary: the polar controversy, resolved*. Mechanicsburg, PA: Stackpole Books.

THE BIOLOGY OF HUMAN SURVIVAL. Claude A. Piantadosi. 2003. Oxford and New York: Oxford University Press. xvi + 263 p, illustrated, hard cover. ISBN 0-19-516501-2. US\$35.00.

DOI: 10.1017/S0032247404273776

The polar regions have often provided a laboratory for investigating the limits of human physiology. In fact, any explorer or scientist who must go where conditions are extreme participates, willingly or unwillingly, in an experiment that helps to define the ultimate boundary of the human ability to adapt to environmental stress. Sometimes that boundary is delimited by tragedy. Other extreme environments include deserts, the deep sea, high mountains, the upper atmosphere, and outer space. Although seemingly diverse, all these places call upon the same repertory of human responses, which can be physiological, behavioral, or technological.

The biology of human survival uses human responses to environmental extremes as its organizing principle. The book begins with concise surveys of the characteristics of the human environment and of the history of environmental physiology, and proceeds to an overview of the mechanisms of adaptation, acclimatization, and acclimation.

In the laboratory, it may be possible to limit the number of experimental variables under study, but in the real world this is impossible. Therefore, in the third chapter of this book the author introduces the important concept of *cross-acclimation*, the complex ways the body responds to multiple stressors. For example, pre-adaptation to cold may protect against subsequent exposure to ionizing radiation (positive acclimation), but may increase vulnerability to hypoxia (negative acclimation). This integrative and multivariate approach is carried forward through the remaining chapters, which deal in turn with nutrition, water and salt balance, thermal homeostasis, defenses against both the deficiency and excess of oxygen,

effects of ionizing radiation, and the consequences of microgravity and hypergravity. The author illustrates the interaction of these factors in human attempts — both doomed and triumphant — to cross deserts and salt seas, to penetrate the Arctic and Antarctic, to delve the oceans, and to reach into the upper regions of the atmosphere and beyond, into space. The human ability to push beyond the physiological envelope by means of behavioral adaptation, including the use of technology, is a theme that further unifies the book, and includes the concept of *double failure*, in which an earlier oversight combined with a subsequent adverse event leads to catastrophe. This important concept is vividly demonstrated by the author's account of Robert Falcon Scott's second, and fatal, attempt to reach the South Pole during the British Antarctic (*Terra Nova*) Expedition of 1910–13. As is widely known, the ponies and the motor transport that had been brought south proved unequal to their tasks early in the expedition, after which the men were their own beasts of burden, pulling the heavy sledges laden with supplies. Why did Scott and his companions die after completing more than 90% of their planned trip and but a day's march from a re-supply cache? Scott himself blamed bad weather and bad luck; others subsequently attributed the failure to the death of the ponies and discouragement of the men. These factors were, of course, important; but the author of *The biology of human survival* demonstrates convincingly that the explorers perished from inadequate nutrition. Scott had allowed for 4500 calories per man per day, but a straightforward calculation and a compelling graphical display of available data show that after the ponies were gone the exhausted men needed far more than this and endured a daily deficit of 1200–1600 calories. Therefore, the double failure began before the expedition embarked: not enough food was allowed for adverse circumstances — the 'bad luck.'

The next-to-last chapter is a sobering assessment of the futility of humanity's attempt to adapt to the ultimate stressor: its own power of self-annihilation, through weapons of mass destruction. The final chapter is a hopeful, but realistic consideration of the physiological possibilities for long-term space travel, even on multi-generational voyages, and extraterrestrial colonization. There is an intriguing discussion of how the morphology of the human body might change in a permanent state of microgravity. The principles of population biology are used to estimate what would be the minimum required size for a sustainable population on such an adventure.

This is an engaging and accessible work of intellectual synthesis that allows the reader to appreciate how the big and the small fit into the integrated system that is the human organism. The book rests on a foundation of broad and solid scholarship, and is of considerable practical utility. It would be valuable to any professional whose work has consequences for human survival: explorers, expedition planners, military officers, human factors engineers, or equipment designers, for example. It could serve well as a textbook in a variety of courses at

either undergraduate or graduate level. As a practicing physiologist, I enjoyed the broad view it provided of my discipline. *The biology of human survival* should also be helpful to weekend warriors who climb mountains, trek the wilderness, go to sea in small boats, or dive under it using scuba. Or, some may just read it for the pleasure of learning the marvelous ways the human organism adapts to its environment. (Barry W. Allen, Department of Anesthesiology, Duke University Medical Center, Durham, NC 27710, USA.)

ARCTIC MIGRANTS/ARCTIC VILLAGERS. David Damas. 2002. Montreal: McGill-Queen's University Press. xiv + 277 p, illustrated, hard cover. ISBN 0-7735-2404-5. £57.00.

DOI: 10.1017/S0032247404283772

While conducting research on ethnicity and modernization in the Northwest Territories of Canada in the mid-1990s, I was intrigued by the presence of outpost camps, a half-dozen in number, that dotted the perimeter of Frobisher Bay. One in particular, Kuyait, was a full day's boat ride (weather permitting) from Iqaluit, a prosperous government town of 4500 people formerly known as Frobisher Bay. Why did people want to live so far from the convenient and comfortable atmosphere of Iqaluit, with its well-stocked supermarkets, convenience shops, restaurants, large hospital, pharmacy, and dozens of leisure activities (radio, television, bingo, ice skating, social clubs, etc.)? Later the question became how could Inuit afford to live at these camps, since they had to purchase a thousand dollars or more of fuel and other supplies (ammunition, motor parts, tools, food) each month just to keep the camp operating smoothly and efficiently. In order to gain greater insight into this question, my wife and I accepted an invitation to travel to an outpost camp run by the Pisukties, an extended family composed of several generations of Inuit and Qallunaat (that is, 'Whites') related by blood, marriage, and adoption. The family was divided into separate households, including three based in Iqaluit and one based at the Kuyait outpost camp, located approximately 300 km from Iqaluit and known for its proximity to excellent hunting and fishing opportunities. Together with various members of this family, my wife and I spent nearly a year living at an outpost camp.

One intriguing aspect of Kuyait is its history. When the late Aksujuleak Pisuktie built the camp with the help of his wife and 10 children in 1977, he was essentially creating a new life for his family. Aksujuleak had spent the last 35 years living and working in Iqaluit. He arrived as a teenager with his family, and his arrival coincided with the arrival of several hundred Americans and Canadians charged with the duty of building an air force base. What fascinated me about Kuyait was the way people referred to it as a return to tradition, as an example of a 'back to the land' movement. On the surface, this made sense. The camp seemed to simulate life during

the contact-traditional era, when Inuit lived in dispersed, small, family-based groups. These groups were drawn together several times a year to trade with the Hudson's Bay Company and/or attend mass at a mission station. When examined more closely, however, Aksujuleak's tradition seemed to be that of a working-class proletariat rather than an optimal forager. He had spent most of his adult life in the quasi-urban setting of Frobisher Bay, working various jobs, heading a family, and benefiting from a newly implemented welfare policy program that enabled him to have money even when he was out of work. Rather than a return to tradition, outpost camps seemed more like a deliberate form of resistance to the process of centralization that altered the lives of so many Inuit so rapidly. If anything, Aksujuleak was inventing a new tradition by making the best of all possible worlds. On the one hand, he could live peacefully at camp, concentrating on those activities he found most meaningful, including endless games of solitaire and many hours of guiding his children through the art of hunting and processing polar bears, seals, walrus, and caribou. On the other hand, he was liberated from the dystopian distractions of Iqaluit, a town notorious for its high rates of drug- and alcohol-related violence. He himself had vowed to quit drinking in 1985, after having lost part of his nose in a drunken brawl. With the aid of a regular pension check and regular grants from the local Hunter and Trappers Association, he could afford to purchase more than minimal quantities of those supplies (that is, gasoline, kerosene, tobacco, tea, and sugar) that made life at the camp pleasant, even attractive, for him, his children, and the odd anthropologist(s).

David Damas' remarkably detailed and methodical study of the centralization of Inuit peoples in the post-World War II era provides considerable historical context for the outpost camp phenomenon described above. The recent emergence of decentralized living patterns such as those evidenced by the Pisuktie family represents the newest phase of a complicated and controversial period of centralization affecting all Canadian Inuit living today in the Northwest Territories and Nunavut, Damas' geographical focus. The process of centralization began slowly and intermittently, involving one family or two per settlement per year. Later, however, the process expanded from a trickle to a stream, as settlement populations trebled and even quadrupled in size in a matter of months, culminating in the complete centralization of all Inuit in the mid-1960s. The controversy hinges on the premise that Inuit were pressured and/or even forcibly relocated into settlements by the government, beginning in the 1940s and 1950s. A number of scholars (such as Hugh Brody, Frank Tester, and Peter Kulchyski) blame this massive demographic shift, and the ensuing consequences, on an arrogant and demeaning government motivated by self-interest and convenience.

Damas weighs in on this debate by wading through a large collection of archival material, including reports and letters produced by clerks of the Hudson's Bay Company, various detachments of the RCMP, and Roman Catholic

and Anglican missionaries, in addition to the published works of countless scholars who conducted community-level studies in the Northwest Territories in the 1950s and 1960s. Armed with powerful evidence, Damas argues that Inuit living in the Northwest Territories were, more often than not, instigators of centralization rather than its victims. He takes the debate one step further by arguing that the government vigorously opposed centralization by advocating a policy of dispersal, that is, encouraging Inuit to remain away from settlements and in camps, following their seasonal rounds of hunting, fishing, and trapping. Anticipating huge shortages in housing and employment, and worried about the risk of epidemics and other health problems due to poor sanitary and hygienic conditions in overcrowded, poorly insulated single-room homes, government employees actively discouraged Inuit from spending too much time around trading posts, Christian missions, or anywhere Qallunaat were living year-round.

On another level, Damas wants to provide a more objective view of the entire process of centralization, which up until now has been only dissected and analyzed in pieces, region by region or even settlement by settlement. Thanks to Damas' macroscopic gaze, it is evident that centralization occurred at different rates for different reasons, some intended and some unintended. In some cases, famine-like conditions required the government to take immediate action and move Inuit to places where they would no longer be starving. In other cases, the government's welfare policy, which was not implemented systematically in the Arctic until the 1950s, entitled Inuit to monthly checks, which then enticed additional migrants to settlements, even if it meant sharing a one-room home with 10 other family members. Only when faced with the realization that dispersal was not favored by Inuit did the territorial government decide to fund the construction of more housing and other structures, which led, in turn, to more centralization.

Understanding centralization enables one better to grasp the economic, social, and political conditions of contemporary Northwest Territories and Nunavut societies. Thanks to Damas, I feel better able to decipher the decisions made by the Pisuktie and other outpost camp families. To decide to build an outpost camp is less an example of resistance to centralization than a means of taking advantage of a policy of dispersal, traces of which are still evident today. In essence, the Pisuktie family was able to have a particular lifestyle because of the benefits and conveniences created by centralization, including expanded social-welfare programs and regular access to a global market of consumer goods. It is perhaps ironic that the current Inuit-run Nunavut territorial government has adopted some of the policies of their former colonizers, the territorial government. The Nunavut government is creating a policy of dispersal of its own by offering rewards and incentives to families who want to build and maintain an outpost camp of their own. Much like government officials in the 1950s and 1960s, today's Inuit leaders recognize that at least some dispersion

is vital to the long-term sustainability of Inuit society in the Canadian Arctic. (Edmund Searles, Department of Sociology and Anthropology, Bucknell University, Lewisburg, PA 17837, USA.)

THE ROSS SEA SHORE PARTY 1914–17. R.W. Richards. 2003. 2nd edition. Banham and Bluntisham: The Erskine Press and Bluntisham Books. 44 p, illustrated, hard cover. ISBN 1-85297-077-4. £14.95; US\$26.00.

DOI: 10.1017/S0032247404293779

This is the second edition of Richards' reminiscences, written more than 40 years after the events described, of the Ross Sea party of Shackleton's Imperial Trans-Antarctic Expedition of 1914–17. The book was originally published by the Scott Polar Research Institute in 1962. This edition is a straight reprint in a different binding with the addition of an attractive dust cover and at a very slightly larger page size. Moreover, the illustrations have been paginated in a different way.

This reprint is wholly to be welcomed as it makes available a text, albeit short, which must be regarded as one of the classics of Antarctic literature. Richards, an Australian, was physicist on the party and was aged 21 when the expedition set out. The story of the expedition, with its inadequate preparation, the extraordinary privations suffered by the men, and the tragic loss of three of their number is reasonably well known. It is perhaps less generally appreciated, and has been seldom, if ever, stated in the mass of recent hagiographic literature about Shackleton, that this expedition succeeded in achieving what it set out to do, and it is ironic that this most successful of his expeditions in terms of fulfilling its aims was the one with which he had the least personal

involvement. However, it is fair to note that Shackleton, who was on board *Aurora* when the party was finally relieved, fully appreciated, and was deeply saddened by, the human loss on the expedition and recognised that they were 'his' men who had died. This fact could also do with being better known, as it reflects upon a popular myth about Shackleton.

The tasks of the expedition were to lay out depots of supplies at intervals of approximately one degree of latitude from the base of the Beardmore Glacier to Ross Island for Shackleton's party to march on to after having crossed the polar plateau from the Weddell Sea side of the continent. Much of the work was by man-hauling and among much of the excellent writing in this short book is one of the finest descriptions of this activity that this reviewer has ever read. For example:

The hours of a day's march seemed endless. I do not know what went on in my companions' minds over these months while on the march. I only know that in my case I used to perform long useless computations of one sort and another in my head. This did not seem to be a deliberate act on my part but rather an automatic reaction to the monotony that was forced on us, and an anodyne to the weariness of the body. (page 25)

It is pleasing to note that Richards was awarded the Albert Medal for bravery while on the expedition. Other members who received it were Ernest Joyce, Ernest Wild, and V.G. Hayward (posthumously). This was converted to the George Cross in 1972. Richards died in 1985 at the age of 91. He was the last of the explorers of the 'Heroic Age.'

This book should be read by all with interests in the Antarctic or its history and the publishers deserve our thanks for their enterprise. (Ian R. Stone, Laggan Juys, Larivane Close, Andreas, Isle of Man IM7 4HD.)